

CLAIMS:

1. A gas purging block for use with injection molding and die casting systems, the block system comprising:

a first-side block having a first-side inner surface;

a pair of first-side channels extending through the first-side block parallel to the first-side inner surface, and adapted to selectively function as conduits for cooling fluid and as mounting bores for mounting the first-side block to a first holder block, and

a second-side block having a second-side inner surface adapted to engage with the first-side inner surface to define a gas passageway.

2. The gas purging block of claim 1, wherein the first-side block further comprises a first-side outer surface parallel to the first-side inner surface, wherein the first-side outer surface comprises a plurality of outer-surface mounting bores for mounting the first-side block to the first holder block.

3. The gas purging block of claim 1, wherein the first-side block further comprises a first-side cross-coolant channel interconnecting the first channel and the second channel.

4. The gas purging block of claim 3, wherein the first-side block further comprises a first-side outer surface parallel to the first-side inner surface, wherein the first-side outer surface comprises a plurality of outer-surface mounting bores for mounting the first-side block to the first holder block.

5. The gas purging block of claim 1, wherein the first-side block further comprising an alignment key for aligning the first-side block when mounted to the first holder block.

6. The gas purging block of claim 1, wherein the second-side block further comprises a pair of second-side channels extending through the second-side block parallel to the second-side inner surface, and adapted to selectively function as conduits for cooling fluid and as mounting bores for mounting the second-side block to a second holder block.

7. The gas purging block of claim 6, wherein the first-side block further comprises a first-side outer surface parallel to the first-side inner surface, wherein the first-side outer surface comprises a plurality of outer-surface mounting bores for mounting the first-side block to the first holder block, wherein the second-side block further comprises a second-side outer surface parallel to the second-side inner surface, and wherein the second-side outer surface comprises a plurality of outer-surface mounting bores for mounting the second-side block to the second holder block.

8. The gas purging block of claim 6, wherein the first-side block further comprises a first-side cross-coolant channel interconnecting the pair of first-side channels, and wherein the second-side block further comprises a second-side cross-coolant channel interconnecting the pair of second-side channels.

9. The gas purging block of claim 8, wherein the first-side block further comprises a first-side outer surface parallel to the first-side inner surface, wherein the first-side outer surface comprises a plurality of outer-surface mounting bores for mounting the first-side block to the first holder block, wherein the second-side

block further comprises a second-side outer surface parallel to the second-side inner surface, and wherein the second-side outer surface comprises a plurality of outer-surface mounting bores for mounting the second-side block to the second holder block.

10. A gas purging block for use with injection molding and die casting systems comprising:

a stationary-side block comprising:

a stationary-side heat exchanging surface adapted to cool excess injected material;

a first stationary-side channel extending through the stationary-side block; and

a second stationary-side channel extending through the stationary-side block parallel to the first stationary-side channel;

wherein the first stationary-side channel and the second stationary-side channel are adapted to selectively function as conduits for cooling fluid and as mounting bores for mounting the stationary-side block to a first holder block; and

an ejector-side block adapted to engage with the stationary-side block, comprising:

an ejector-side heat exchanging surface adapted to engage with the a stationary-side heat exchanging surface to define a gas passageway, and further adapted to cool the excess injected material;

a first ejector-side channel extending through the ejector-side block; and

a second ejector-side channel extending through the ejector-side block parallel to the first ejector-side channel; wherein the first ejector-side channel and the second ejector-side channel are adapted to selectively function as conduits for cooling fluid and as mounting bores for mounting the ejector-side block to a second holder block.

11. The gas purging block of claim 10, wherein the stationary-side block further comprises a plurality of outer-surface mounting bores for further mounting the stationary-side block to the first die block, and wherein the ejector-side block further comprises a plurality of outer-surface mounting bores for securing the ejector-side block to the second die block.

12. The gas purging block of claim 10, wherein the stationary-side block further comprises a stationary-side cross-coolant channel interconnecting the first stationary-side channel and the second stationary-side channel, and wherein the ejector-side block further comprises an ejector-side cross-coolant channel interconnecting the first ejector-side channel and the second ejector-side channel.

13. The gas purging block of claim 12, wherein the stationary-side block further comprises a plurality of outer-surface mounting bores for further mounting the stationary-side block to the first die block, and wherein the ejector-side block further comprises a plurality of outer-surface mounting bores for securing the ejector-side block to the second die block.

14. The gas purging block of claim 11, wherein the stationary-side block further comprises a stationary-side alignment key for aligning the stationary-side

block when mounted to the first holder block, and wherein the ejector-side block further comprises an ejector-side alignment key for aligning the ejector-side block when mounted to the second holder block.

15. The gas purging block of claim 10, wherein the block system is adapted to alternatively function as a vacuum block and a vent block.

16. A gas purging block for use with injection molding and die casting systems, comprising:

a stationary-side block comprising:

a stationary-side inner surface;

a stationary-side outer surface parallel to the stationary-side inner surface;

a pair of stationary-side coolant fluid channels extending through the stationary-side block between the stationary-side inner surface and stationary-side outer surface; and

a stationary-side mounting means for mounting the stationary-side block to a first holder block; and

an ejector-side block comprising:

an ejector-side inner surface, adapted to engage with the stationary-side inner surface to define a gas passageway;

an ejector-side outer surface parallel to the ejector-side inner surface;

a pair of ejector-side coolant fluid channels extending through the ejector-side block between the ejector-

side inner surface and the ejector-side outer surface;
and

an ejector-side mounting means for mounting the ejector-side block to a second holder block.

17. The gas purging block of claim 16, wherein the stationary-side mounting means comprises fasteners adapted to be inserted through the pair of stationary-side coolant fluid channels, and wherein the ejector-side mounting means comprises fasteners adapted to be inserted through the pair of ejector-side coolant fluid channels.

18. The gas purging block of claim 16, wherein the stationary-side mounting means comprises a plurality of fasteners adapted to be inserted into the stationary-side outer surface, and wherein the ejector-side mounting means comprises a plurality of fasteners adapted to be inserted into the ejector-side outer surface.

19. The gas purging block of claim 18, wherein the stationary-side mounting means comprises fasteners adapted to be inserted through the pair of stationary-side coolant fluid channels, and wherein the ejector-side mounting means comprises fasteners adapted to be inserted through the pair of ejector-side coolant fluid channels.

20. The gas purging block of claim 19, wherein the stationary-side block further comprises a stationary-side cross-coolant channel interconnecting the pair of stationary-side coolant fluid channels, and wherein the ejector-side block further comprises an ejector-side cross-coolant channel interconnecting the pair of ejector-side coolant fluid channels.